

[Name of Document] SPECIFICATION

[Title of the Invention] Shock absorbing packaging material

[Field of the Invention]

The present invention relates to a shock absorbing packaging material having a display function.

[Background Art]

As a shock absorbing packaging material for protecting such a packaged product as a thing easy to destroy, an electronic device and precision device from a shock generated during transportation, as well known, a shock absorbing packaging material which holds the packaged product in outer frame members with transparent shock absorbing film having plasticity and stretching property is available. This shock absorbing packaging material enables a packaged product to be recognized easily through the transparent shock absorbing film even after packaging is completed.

As the shock absorbing packaging material, a Japanese Patent Application Laid-Open No. 11-268768 has disclosed a packaging body for protecting a product from impact using the shock absorbing property film as a shock absorbing material, which comprises at least a tray-like product accommodating portion and an intermediate frame portion in which the shock absorbing property film is attached as a window to see, wherein the product fixed with a fixing means at a predetermined position in the product accommodating portion is held at a position which the shock absorbing property film makes contact in a tight condition such that the intermediate frame portion opposes the product accommodating portion.

However, because in the packaging body with the shock absorbing function described in the Japanese Patent Application Laid-Open No. 11-268768, the packaged product cannot be seen except through the intermediate frame portion, the entire packaged product cannot be

recognized and if product explanation is described on the rear face of the packaged product, it is necessary to pick out the packaged product from the packaging body to see that product explanation, which is a very troublesome work.

Then, as the shock absorbing packaging material which has solved the aforementioned problem, a shock absorbing packaging material in which a packaged product is held in a tubulous outer frame member in conditions in which it is nipped by a pair of shock absorbing films has been developed. For example, according to a Japanese Patent Publication No. 54-712, there is disclosed a packaging container wherein a packaging object product is depressurization-packaged or vacuum-packaged with transparent, flexible and strong sheets such that a bonding end portion of the sheet is provided around, and next, the packaging object product is inserted into a cylindrical holding frame having a width enough for the packaged product not to project and then, the sheet bonding end portion is engaged with the holding frame wall so as to hang the packaged product in a state of tension.

A Japanese Patent Application Laid-Open No. 2001-278343 has disclosed a film packaging material comprising a shock absorbing member created by connecting two window-frame-like film frames over which a holding film is stretched with a wide hinge and a box which accommodates the two film frames or the like in a state that they are closed with the hinge, wherein the box has openings facing the both holding films on its peripheral walls, the shock absorbing member has an offset portion created by bending or the like while the offset portion serves as an offset means for bringing back and fixing the film frame at a deep position retreated from the opening of the box.

Because according to this kind of the shock absorbing packaging material, even after the packaging, the packaged product can be seen entirely through the both shock absorbing films and further the packaged product is held in a hung state with respect to the outer frame members, its shock absorbing performance is very high and a strong appealing effect to an observer can be expected.

However, the packaging container described in the Japanese Patent Publication No. 54-712 has such a problem that its strength is very low because the holding frame is of a single structure. Further, because the

sheet bonding end portion is projected to the outer peripheral face of the holding frame, if any outer peripheral face of the holding frame is used as a bottom face, the package cannot be placed in a stable condition. Further, because each sheet bonding end portion needs to be engaged with the holding frame wall in packaging process, the working efficiency is low and it is difficult to place the packaged product in the center of the holding frame.

The film packaging material described in the Japanese Patent Application Laid-Open No. 2001-278343 has such a problem that its strength is very low because the peripheral wall of the box which supports the offset portion of the shock absorbing member is of a single structure. Further, because an opening is formed in any peripheral wall of the box in order to bring in or out the shock absorbing member, if that opening is directed downward with a heavy product packaged, that packaged product looses out from the box together with the holding film.

Accordingly, a technical object of the present invention is to obtain a shock absorbing packaging material having a very high strength and having a display performance without limiting its display attitude to any particular one, which can be placed in a stable condition with an excellent design performance, and to achieve this object, a number of researches and experiments were accumulated. As a result, a following technical philosophy has been obtained and thus, the above technical object has been achieved. That is, if , in the shock absorbing packaging material comprising a pair of intermediate frame members over which shock absorbing film is stretched so as to cover a window hole and an outer frame member which holds the pair of the intermediate frame members in an opposing condition, the outer frame member is constructed with a tube body which surrounds the outer peripheral edges of the pair of the intermediate frame members, a one side supporting piece extending from one side opening edge of the tube body and the other side supporting piece extending from the other side opening edge of the tube body and then, the pair of the intermediate frame members are disposed in a hollow portion of the tube body and the outer peripheral edge portion of the one side intermediate frame member is supported by the one side supporting piece folded inward of the tube body while the outer peripheral edge portion of the other side intermediate frame member is supported by the other side

supporting piece folded inward of the tube body, the strength can be improved considerably.

[Summary of the Invention]

According to claim 1 of the present invention, there is provided a shock absorbing packaging material comprising a pair of intermediate frame members over which shock absorbing film is stretched so as to cover a window hole and an outer frame member which holds the pair of the intermediate frame members in an opposing condition wherein the outer frame member is constituted of a tube body which surrounds the outer peripheral edges of the pair of the intermediate frame members, a one side supporting piece extending from one side opening edge of the tube edge and the other side supporting piece extending from the other side opening edge of the tube body, and the pair of the intermediate frame members are disposed in a hollow portion of the tube body and the outer peripheral edge portion of the one side intermediate frame member is supported by the one side supporting piece folded inward of the tube body while the outer peripheral edge portion of the other side intermediate frame member is supported by the other side supporting piece folded inward of the tube body.

According to claim 2 of the present invention, there is provided the shock absorbing packaging material according to claim 1 wherein a flange is formed on the inner periphery of one side opening of the tube body by the one side supporting piece folded inward of the tube body while a flange is formed on the inner periphery of the other side opening of the tube body by the other side supporting piece folded inward of the tube body, and the outer peripheral edge portion of the one side intermediate frame member is supported by the flange formed on the inner periphery of the one side opening of the tube body while the outer peripheral edge portion of the other intermediate frame member is supported by the flange formed on the inner periphery of the other side opening of the tube body.

According to claim 3 of the present invention, there is provided the shock absorbing packaging material according to claim 2 wherein the flange formed on the inner periphery of one side opening of the tube body

is formed in the shape of a plane opposing the other side opening of the tube body, while the flange formed on the inner periphery of the other side opening of the tube body is formed in the shape of a plane opposing the one side opening of the tube body.

According to claim 4 of the present invention, there is provided the shock absorbing packaging material according to claim 1 to 3 wherein the one side supporting piece folded inward of the tube body is formed in the shape of a pole while the other side supporting piece folded inward of the tube body is formed in the shape of a pole.

According to claim 5 of the present invention, there is provided the shock absorbing packaging material according to claim 1 to 4 wherein a hooking portion is formed in each of the adjoining side edge portions of adjoining one side supporting pieces, a hooking portion is formed in each of the adjoining side edge portions of adjoining other side supporting pieces and the hooking portions of adjoining one side supporting pieces folded inward of the tube body engage each other while the hooking portions of adjoining other side supporting pieces folded inward of the tube body engage each other.

According to claim 6 of the present invention, there is provided the shock absorbing packaging material according to claim 1 to 5 wherein the outer frame member is made of a single piece of blank, the blank being composed of a plurality of outside wall portions designed to constitute a tube body, connected to each other such that they are arranged in line, a link portion is formed on the side edge of the outside wall portion located at one side end of the plurality of outside wall portions arranged in line, the one side supporting piece is connected to the bottom edge of the outside wall portions which serve as one side opening edge of the tube body, while the other side supporting piece is connected to the upper edge of the outside wall portions which serve as the other side opening edge of the tube body, so that, by folding the respective outside wall portions in the same direction and connecting the link portion to the side edge of the outside wall portion located at the other side end of the plurality of outside wall portions arranged in line, the tube body is formed.

According to claim 7 of the present invention, there is provided the shock absorbing packaging material according to claim 1 to 6 wherein one side supporting piece has an inner wall portion connected to one side

opening edge of the tube body and a flange portion connected to the inner wall portion and the other side supporting piece has an inner wall portion connected to the other side opening edge of the tube body and a flange portion connected to the inner wall portion. A flange is formed on the inner periphery of one side opening of the tube body by a flange portion opposing the other opening of the one side supporting piece folded inward of the tube body and then, a flange is formed on the inner periphery of the other side opening of the tube body by a flange opposing the one side opening of the other side supporting piece folded inward of the tube body. Then, the outer peripheral edge portion of the one side intermediate frame member is supported by the flange formed on the inner periphery of the one side opening of the tube body and the outer peripheral edge portion of the other side intermediate frame member is supported by the flange formed on the inner periphery of the other side opening of the tube body.

According to claim 8 of the present invention, there is provided the shock absorbing packaging material according to claim 1 to 7 wherein one side supporting piece has an inner wall portion connected to one side opening edge of the tube body, a flange portion connected to the inner wall portion and a front end portion connected to the flange portion and the other side supporting piece has an inner wall portion connected to the other side opening edge of the tube body, a flange portion connected to the inner wall portion and a front end portion connected to the flange portion. A flange is formed on the inner periphery of the one side opening of the tube body by a flange portion opposing the other side opening, of the one side supporting piece folded inward of the tube body and then formed in the shape of a pole and a flange is formed on the inner periphery of the other side opening of the tube body by a flange portion opposing the one side opening, of the other side supporting piece folded inward of the tube body and then formed in the shape of a pole. Then, the outer peripheral edge portion of the one side intermediate frame member is supported by the flange formed on the inner periphery of the one side opening of the tube body while the outer peripheral edge portion of the other side intermediate frame member is supported by the flange formed on the inner periphery of the other side opening of the tube body.

According to claim 9 of the present invention, there is provided the

shock absorbing packaging material according to claim 1 to 8 wherein the bending lines are formed in the inner wall portion.

According to claim 10 of the present invention, there is provided the shock absorbing packaging material according to claim 1 to 9 wherein each intermediate frame member is comprised of a frame body having a window hole and outward projected pieces perpendicular to the frame body. The outward projected piece of one side intermediate frame member disposed in the hollow portion of the tube body is inserted into between the tube body and the one side supporting piece folded inward of the tube body and the outward projected piece of the other side intermediate frame member disposed in the hollow portion of the tube body is inserted into between the tube body and the other side supporting piece folded inward of the tube body.

Because the present invention has adopted a structure in which a packaged product is held in an outer frame member in conditions in which it is nipped by transparent shock absorbing films stretched over a pair of the intermediate frame members, the packaged product is supported in a state in which it is hung by the outer frame member. Thus, it looks that the packaged product is floating in the middle of the outer frame member and thus, a strong appealing effect is exerted to an observer. Further, because the outer frame member which holds a pair of the intermediate frame members is constructed of multiple structures including the outside wall portions which constitute the tube body and the inner wall portions which constitute the supporting pieces, the strength is improved tremendously.

Therefore, the industrial applicability of the present invention is very high.

[Brief Description of the Drawings]

[FIG. 1] FIG. 1 is an exploded perspective view showing the halfway of the assembly of the shock absorbing packaging material according to a first embodiment.

[FIG. 2] FIG. 2 is a perspective view showing the state in which the shock absorbing packaging material according to the first embodiment is assembled completely.

[FIG. 3] FIG. 3 is a development view showing the intermediate frame member of the shock absorbing packaging material shown in FIG. 1.

[FIG. 4] FIG. 4 is a development view showing the outer frame member of the shock absorbing packaging material shown in FIG. 1.

[FIG. 5] FIG. 5 is a longitudinal sectional view showing the shock absorbing packaging material shown in FIG. 1.

[FIG. 6] FIG. 6 is a development view showing the outer frame member of the shock absorbing packaging material according to a first modification of a second embodiment.

[FIG. 7] FIG. 7 is a longitudinal sectional view showing the shock absorbing packaging material according to the first modification of the second embodiment.

[FIG. 8] FIG. 8 is a development view showing the outer frame member of the shock absorbing packaging material according to a second modification of the second embodiment.

[FIG. 9] FIG. 9 is a longitudinal sectional view showing the shock absorbing packaging material according to the second modification of the second embodiment.

[Description of Reference Numerals]

1: shock absorbing packaging material

2: packaged product

3: intermediate frame member

4: outer frame member

5: tube body

6: one side supporting piece

7: other side supporting piece

8: blank

9: shock absorbing film

10: window hole

11: frame body

12: outward projected piece

13: bending line

14: blank

15: outside wall portion

- 16, 18, 19, 20: bending line
- 17: glue portion
- 21: inner wall portion
- 22: first bending line
- 23: flange portion
- 24: second bending line
- 25: front end portion
- 26: hooking piece
- 27: finger hooking hole
- 28: hooking hole
- 29, 30: flange
- 31: third bending line

[Best Mode for Carrying Out the Invention]

FIG. 1 is an exploded perspective view showing halfway of assembly work of the shock absorbing packaging material according to the best mode for carrying out the invention. FIG. 2 is a perspective view showing a state in which the shock absorbing packaging material according to this mode is assembled completely. FIG. 3 is a development view showing an intermediate frame member of the shock absorbing packaging material shown in FIG. 1. FIG. 4 is a development view showing an outer frame member of the shock absorbing packaging material shown in FIG. 1. FIG. 5 is a longitudinal sectional view showing the shock absorbing packaging material shown in FIG. 2. In these Figures, reference numeral 1 denotes a shock absorbing packaging material comprising a pair of intermediate frame members 3, 3 for nipping a packaged product 2 and an outer frame member 4 for holding the pair of the intermediate frame members 3, 3. The outer frame member 4 is comprised of a tube body 5 for surrounding the outer peripheral edge of the paired intermediate frame members 3, 3, a one side supporting piece 6 formed by extending one side opening edge of the tube body 5, and the other side supporting piece 7 formed by extending the other opening edge of the tube body 5. In the meantime, if just "supporting piece" is mentioned herein below, it means "one side supporting piece" and "the other side supporting piece".

The intermediate frame member 3 is produced by as shown in FIG. 3, stretching a shock absorbing film 9 (indicated with dotted line in FIG. 3) on one side of a single blank 8 made by punching out a thick paper such as cardboard and folding at specified positions of the blank 8. The blank 8 is comprised of a frame body 11 rectangular in its outer shape having a window hole 10 and outward projected pieces 12 made by extending the outer peripheral edge of the frame body 11 and a folding line 13 is formed on a boundary portion. The shock absorbing film 9 is stretched over the window hole 10 in the frame body 11 and its outer peripheral edge portion is bonded to each outward projected pieces 12.

As the bonding method of the shock absorbing film 9, the shock absorbing film may be fused by heating or bonded with adhesive agent.

The outer frame member 4 is, as shown in FIG. 4, comprised of a single blank 14 made by punching out a thick paper such as cardboard and the blank 14 is folded at specified positions and glued at the specified positions. Four pieces of outside wall portions 15, which constitute the tube body 5, are connected to the blank 14 such that they are arranged in line and a bending line 16 is formed on the boundary portion. In the meantime, in the four outside wall portion 15 arranged in line, the long outside wall portion 15 and the short outside wall portion 15 are arranged alternately and a glue portion 17 (link portion) is connected to a side edge of the long outside wall portion located on one extreme end via the bending line 18.

One side supporting pieces 6 extending from the bottom ends of an one side opening edge of the tube body 5 are connected to the outside wall portions 15 through the bending line 19 and the other side supporting pieces 7 extending from the top ends of the other opening edge of the tube body 5 are connected thereto through a bending line 20.

The supporting pieces 6,7 comprise an inner wall portion 21 connected to the outside wall portion 15, a flange portion 23 connected to the inner wall portion 21 through a first bending line 22 and a front end portion 25 connected to the flange portion 23 through a second bending line 24. A hooking piece 26 (hooking portion) is projected from each of both side edges of the inner wall portions 21 in the supporting pieces 6,7 connected to the short outside wall portion 15 and further a finger hooking hole 27 is formed to cross over the first bending line 22. Further, hooking holes 28

(hooking portion) in which the hooking piece 26 of the supporting pieces 6,7 connected to the short outside wall portion 15 are to be inserted, are formed on both side edges of the inner wall portion 21 in the supporting pieces 6,7 connected to the long outside wall portion 15.

Next, the assembly method of the shock absorbing packaging material of this mode will be described.

First, the four outside wall portions 15 and the glue portion 17 of the blank 14 constituting the outer frame member 4 are bent at right angle in the same direction along the bending line 16 and the bending line 18 and by gluing the glue portion 17 to the side edge of the short outside wall portion 15 located at the other end of the four outside wall portions 15 arranged in line, the tube body 5 having a hollow portion having a rectangular section is assembled.

Then, a triangular shape is formed by folding the one side supporting pieces 6 connected to the long outside wall portion 15 inward of the tube body 5 along the first bending line 22 and the second bending line 24. After that , by folding the one side supporting piece 6 entirely inward of the tube body 5 along the bending line 19, the flange portion 23 of the one side supporting piece 6 is opposed to the other opening of the tube body 5. Subsequently, by folding the one side supporting piece 6 connected to the short outside wall portions inward of the tube body 5 along the first bending line 22 and the second bending line 24, a triangular shape is formed. After that, by folding the one side supporting piece 6 entirely inward of the tube body 5 along the bending line 19, the flange portion 23 of the one side supporting piece 6 is opposed to the other opening of the tube body 5. At this time, the hooking piece 26 of the one-side supporting piece 6 connected to the short outside wall portion 15 is inserted into the hooking hole 28 in the one side supporting piece 6 connected to the long outside wall portion 15. Consequently, a flange 29 is formed by the flange portion 23 of the respective one-side supporting pieces 6 on the inner periphery on one side opening of the tube body 5 such that it opposes the other opening.

Next, the respective outward projected pieces 12 of the blank 8 constituting the intermediate frame member 3 are folded at right angle along the bending line 13 so that the shock absorbing film 9 is exposed outside. Subsequently, the intermediate frame member 3 on one side is

accommodated in the hollow portion of the tube body 5 through the other opening of the tube body 5. At this time, a face over which no shock absorbing film 9 is stretched of the one intermediate frame member 3 is directed to one opening side of the tube body 5 and each outward projected piece 12 of the one intermediate frame member 3 is inserted into between the tube body 5 and the one side supporting piece 6 while the frame body 11 constituting the outer peripheral edge portion of the one side intermediate frame member 3 is brought into contact with the flange 29.

Next, after a packaged product 2 is placed on the window hole 10 in which the shock absorbing film 9 is stretched of the one side intermediate frame member 3, the other intermediate frame member 3 is accommodated in the hollow portion of the tube body 5 through the other opening of the tube body 5 like the one side intermediate frame member 3. At this time, the face in which no shock absorbing film 9 is stretched of the other intermediate frame member 3 is directed to the other opening side of the tube body 5. Therefore, a pair of the intermediate frame members 3, 3 are disposed in the hollow portion of the tube body 5 in conditions in which the faces in which the shock absorbing film 9 is stretched are opposed to each other.

Finally, the other side supporting pieces 7 connected to the long outside wall portion 15 are folded inward of the tube body 5 like the one side supporting pieces 6 connected to the long outside wall portion 15 and after that, the other side supporting pieces 7 connected to the short outside wall portion 15 are folded inward of the tube body 5 like the one side supporting pieces 6 connected to the short outside wall portion 15. Consequently, the flange 30 opposing the one side opening is formed by the flange portion 23 of the respective other side supporting pieces 7 on the inner periphery of the other opening side of the tube body 5 so that the frame body 11 of the other intermediate frame member 3 is brought into contact with the flange 30. Further, the respective outward projected pieces 12 of the other intermediate frame member 3 are inserted into between the tube body 5 and the other side supporting piece 7.

Because according to this embodiment, the respective supporting pieces folded inward of the tube body are formed into a triangular prism, the strength is improved excessively. Further, because no folding line is formed on the inner wall portion of the supporting piece which acts as an

inner face of the shock absorbing packaging material and a force of the frame body's pressing the flange is concentrated on the folding line formed on the boundary portion between the tube body and the supporting piece, the sectional shape of the supporting piece is free of distortion and the strength is improved further.

Although as the packaged product increases in size, the tension of the shock absorbing film is intensified and accompanied by this, the force of the frame body's pressing the flange is increased, because according to the present embodiment, the flange is formed of the flange portion having a large width and the intermediate frame member is supported such that it is in contact with the flange through a plane, a larger product can be packaged even if the strength of a thick paper which is material of the blank is weak (even if the thickness thereof is low). Further, although as the packaged product increases in size, the tension of the shock absorbing film is increased, a force of shock absorbing film's pulling the frame body in the direction to the hollow portion of the tube body is increased. However, because according to this embodiment, the outward projected pieces perpendicular to the frame body are provided and the outward projected pieces remained inserted into between the tube body and the supporting piece, the frame body is never loosed from the flange.

Example.

The example is a modification of the supporting piece of the best mode for carrying out the invention and FIG. 6 is a development view showing the outer frame member of the shock absorbing packaging material according to a first modification of this example. FIG. 7 is a longitudinal sectional view showing the shock absorbing packaging material according to the first modification of this example. FIG. 8 is a development view showing the outer frame member of the shock absorbing packaging material according to a second modification of this example. FIG. 9 is a longitudinal sectional view showing the shock absorbing packaging material according to the second modification of this example. In these Figures, the same reference numerals as FIGS. 1 to 5 denote the same or similar portion.

First modification : In the supporting pieces 6,7 of this modification, as shown in FIG. 6, a third bending line 31 is formed at the middle position

of the inner wall portion 21 connected to the outside wall portion 15. The hooking hole 28 is formed in each of both side edge portions of the inner wall portion 21 of the supporting pieces 6a, 7a connected to the long outside wall portion 15 located on one extreme end of the four outside wall portions 15 arranged in line. Further, the hooking piece 26 is formed on the side edge adjacent to the supporting pieces 6a, 7a in the inner wall portion 21 of the supporting pieces 6b, 7b adjacent to the supporting pieces 6a, 7a while the hooking hole 28 is formed in the side edge portion not adjacent thereto. Further, the hooking piece 26 is formed on the side edge adjacent to the supporting pieces 6b, 7b in the inner wall portion 21 of the supporting pieces 6c, 7c adjacent to the supporting pieces 6b, 7b while the hooking hole 28 is formed in the side edge portion not adjacent thereto. Further, the hooking piece 26 is formed on each of both side edges in the inner wall portion 21 of the supporting pieces 6d, 7d adjacent to the supporting pieces 6c, 7c, in other words, the supporting pieces 6d, 7d connected to the short outside wall portion 15 located at the other extreme end of the four outside wall portions 15 arranged in line.

Thus, to fold the supporting pieces 6, 7 of this modification inward of the tube body 5, first, as shown in FIG. 7, the supporting pieces 6a, 7a are folded inward of the tube body 5 along the first bending line 22, the second bending line 24 and the third bending line 31 so as to form a square pole. After that, by folding the supporting pieces 6a, 7a entirely inward of the tube body 5 along the bending lines 19, 20, the flange portion 23 of each of the supporting pieces 6a, 7a is opposed to the opening of the tube body 5. Next, the supporting pieces 6b, 7b are folded inward of the tube body 5 like the supporting pieces 6a, 7a. At this time, the hooking piece 26 of the supporting pieces 6b, 7b is inserted into the hooking hole 28 of the supporting pieces 6a, 7a. Subsequently, the supporting pieces 6c, 7c are folded inward of the tube body 5 like the supporting pieces 6a, 7a. At this time, the hooking piece 26 of the supporting pieces 6c, 7c is inserted into the hooking hole 28 in the supporting pieces 6b, 7b. Finally, the supporting pieces 6d, 7d are folded inward of the tube body 5 like the supporting pieces 6a, 7a. At this time, both the hooking pieces 26, 26 of the supporting pieces 6d, 7d are inserted into the hooking holes 28 in the supporting pieces 6a, 7a and the hooking hole 28 in the supporting pieces 6c, 7c. Consequently, the flanges 29, 30

are formed of the flange portion 23 of each supporting piece 6, 7 on the inner periphery of each opening side of the tube body 5.

Because according to this modification, the supporting pieces folded inward of the tube body are formed in the shape of a square pole, the strength is improved considerably.

Second modification : The supporting pieces 6, 7 of this modification are comprised of only the inner wall portions 21 connected to the outside wall portion 15 of the tube body 5 as shown in FIG. 8. Convex/concave engaging pieces 31 (hooking portions) are formed on side edges adjoining each other of the adjoining supporting pieces 6,7 so that they engage each other.

Therefore, when folding the supporting pieces 6, 7 of this modification inward of the tube body 5, by folding each supporting piece 6, 7 inward of the tube body 5 along the bending lines 19, 20 as shown in FIG. 9, the front ends of the supporting pieces 6, 7 are opposed to the opening of the tube body 5. At this time, the engaging pieces 31 formed on the adjoining side edges of the adjoining supporting pieces 6, 7 are engaged with each other. Consequently, the flanges 29, 30 are formed of the front end of each supporting piece 6, 7 on the inner periphery of each opening side of the tube body 5.

Because according to this modification, the outer frame member for holding the intermediate frame member is constructed in multiple structures, the strength is improved. Further, because the supporting piece is constructed of only the inner wall portion, the weight and size of the outer frame member can be reduced. Further, because as a fixing means when each supporting piece is folded inward of the tube body, a structure in which the adjoining side edges of the adjoining supporting pieces engage each other is adopted, the order of folding the respective supporting pieces inward of the tube body is not limited but the supporting pieces can be folded in a free order, thereby improving work efficiency.

In the meantime, the pair of the intermediate frame members of the present invention may be held on the outer frame members such that they are fitted to each other as mentioned in the respective embodiments or such that there is provided a specific interval between those paired intermediate frame members. In this case, a larger packaged product can

be held.

The paired intermediate frame members composed of separate ones may be used like the above-described respective embodiments or it is permissible to use the paired intermediate frame members which are integrated by joining one side of one intermediate frame member with one side of the other intermediate frame member. In the meantime, it is permissible to adopt the paired intermediate frame members which are joined together through a hinge between one side of one intermediate frame member and one side of the other intermediate frame member.

If the packaged product is relatively small or a thin, the outward projected piece of the intermediate frame member does not need to be provided. In this case, the outer peripheral edge portion of the shock absorbing film is bonded to the frame body.

The sectional shape of the hollow portion of the tube body constituting the outer frame member is not limited to the rectangular one as mentioned in the respective embodiments, but may be of other polygon shape such as triangular or pentagon or may be of other shape.

The supporting piece folded inward of the tube body is not limited to triangle pole or square pole but may be of other polygon pole or other shape of a pole.

By applying a pattern or colors to a portion exposed on the outside surface of the outer frame member, the design property thereof can be enhanced further.

The outer frame member may be formed of synthetic resin such as polyethylene, polypropylene or PET, and metal such as stainless, aluminum as well as a thick paper.

The frame body having the window hole of the intermediate frame member may be formed of synthetic resin such as polyethylene, polypropylene or PET, and metal such as stainless or aluminum as well as a thick paper.